

## CLAIMS

What is Claimed is:

5           1. A method of controlling a vehicle drive having a 4X4 mode of operation and other modes of operation using an electronic control system providing a torque output in response to driver demand, comprising:

10           controlling torque output when the vehicle is in the 4X4 mode using a calibration table stored in system memory and indicating a relationship of torque output as a function of accelerator pedal position and a speed parameter, and

15           controlling torque output when the vehicle is in one of the other modes of operation using a different calibration table stored in system memory and indicating a different relationship of torque output as a function of the accelerator pedal position and the speed parameter.

20           2. The method of claim 1 wherein for a vehicle drive including an automatic transmission, the torque output of the first calibration table comprises an output shaft torque value determined in response to accelerator pedal position and transmission output shaft speed.

25           3. The method of claim 2 wherein the output shaft torque value is provided for a drive gear mode.

30           4. The method of claim 1 wherein said first calibration table indicates a relationship of torque output as a function of the accelerator pedal position and the speed parameter that reduces sensitivity of torque output to accelerator pedal position in the 4X4 mode of operation.

35           5. The method of claim 1 wherein the speed parameter is engine speed for a vehicle drive comprising a manual transmission.

          6. The method of claim 1 wherein the speed parameter is transmission output shaft speed for a vehicle drive comprising an automatic transmission.

7. A method of controlling a vehicle drive having a 4X4 low mode of operation and other modes of operation using an electronic control system providing a torque output in response to driver demand, comprising:

controlling torque output when the vehicle is in the 4X4 low mode using a calibration table stored in system memory and indicating a relationship of torque output as a function of accelerator pedal position and a speed parameter, and

controlling torque output when the vehicle is in one of the other modes of operation using a different calibration table stored in system memory and indicating a different relationship of torque output as a function of the accelerator pedal position and the speed parameter.

8. An electronic control system for a vehicle drive providing a torque output in response to driver demand, comprising:

a calibration table stored in system memory for controlling torque output for a 4X4 mode of the vehicle drive and indicating a relationship of torque output as a function of accelerator pedal position and a speed parameter, and

a different calibration table stored in system memory for controlling torque output for another mode of operation of the vehicle drive and indicating a different relationship of torque output as a function of the accelerator pedal position and the speed parameter.

9. The system of claim 8 wherein the torque output of the first calibration table comprises an output shaft torque value for the 4X4 mode of an automatic transmission.

10. The system of claim 9 wherein said 4X4 mode is a 4X4 low mode of operation.

11. The system of claim 8 wherein said first calibration table indicates a relationship of torque output as a function of the accelerator pedal position and the speed parameter that reduces sensitivity of the torque output to accelerator pedal position in the 4X4 low mode of operation.

12. The system of claim 7 wherein the second calibration table indicates a relationship of engine torque output as a function of the accelerator pedal position and the speed parameter.

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